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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/319,384	06/04/1999	TAKASHI ECHIGO	Q54629	2943

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EXAMINER

PRATS, FRANCISCO CHANDLER

ART UNIT

PAPER NUMBER

1651

DATE MAILED: 02/13/2002

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/319,384

Applicant(s)

ECHIGO ET AL.

Examiner

Francisco C Prats

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

The amendment filed December 18, 2001, has been received and entered. The text of those sections of Title 35, U.S. Code, not included in this action can be found in a prior office action.

Claims 1-19 are pending and are examined on the merits.

Claim Rejections - 35 USC § 112

Claims 5, 12, 13 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recitation in claim 5, "removing a portion of a water insoluble solid component" is indefinite because the claim does not state what the component is being removed from.

In response to this ground of rejection applicant argues that the specification makes it clear that the water insoluble component is being removed from pulp waste liquors. This is not persuasive of error because the claim is confusing on its own. Simply put, the claim is confusing because it does not state that the water insoluble component is being removed from pulp waste liquors. Because the claim fails to state what the water insoluble component is being removed from, the claim simply does

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not make sense when one reads it. The claim must therefore be considered indefinite. Note that insertion of the phrase -- of waste pulp liquors -- after the word component at line 5 of claim 5 would overcome this ground of rejection.

The recitation in claims 12 and 13, "equivalent", is indefinite because it is not clear whether the recitation means that the compound is the same or similar to that, and what the similarity or "equivalence" must be.

Although applicant urges that the specification provides examples of equivalent materials, the simple fact is that the metes and bounds of the claim-required equivalence are not clear. Again, it is not clear whether the claimed compounds must be the same or similar, and if similar, the degree of similarity. Because the metes and bounds of the term "equivalent" are not clear, the holding of indefiniteness must be maintained. Note that deleting the recitation "equivalent to" and substituting the recitation -- the same as -- in its place would overcome this ground of rejection.

The recitation "high concentration" in claim 19 is indefinite because it is not clear how high the concentration must be.

Although applicant argues that the one in the art recognizes that concentrated solutions which can be diluted for

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use renders the term "high concentration" definite, it is respectfully pointed out that the metes and bounds of the clearly relative term "high" are not clear. Thus, although one may recognize that highly concentrated solutions can be diluted for actual use, claim 19 does not set forth the actual concentration required. Note that deletion of the term "high concentration" would overcome this ground of rejection.

Claim Rejections - 35 USC § 102

Claims 1-3, 5-15 and 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Schneider et al (WO 95/01426) for the reasons of record set forth at pages 4 and 5 of the office action of July 18, 2001.

All of applicant's argument on this issue has been fully considered but is not persuasive of error. Applicant urges that Schneider does not disclose a composition comprising an enzyme and a substrate therefor. This is not accurate. Schneider clearly discloses "a method of enzymatic polymerization and/or modification of lignin or lignin containing material, the method comprising treatment of the lignin or lignin containing material with a laccase or a laccase related enzyme in the presence of a source of oxygen and in the presence of an enhancing agent of the invention." See Schneider at pages 6 and 7. To practice

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this method one must mix the enzymes recited in applicant's claims with the substrates recited in applicant's claims. This mixture is a composition. The mixture resulting from Schneider's process is a composition which contains the claimed ingredients, whether lignin is considered a component of the treating agent or an object of the treatment. The holding of anticipation is clearly required.

Applicant further argues that the claimed invention provides the advantage that if dried after impregnation into a porous material, the oxygen-requiring enzymes can efficiently catalyze macromolecularization despite the limit oxygen supply within porous materials. This argument does not demonstrate error. The claims recite a composition comprising certain ingredients. The reference discloses compositions containing the claimed ingredients. The reference therefore anticipates the claims.

Note specifically that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative

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difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). In the instant case Schneider's compositions clearly can be used for the intended purpose. In particular, note the claimed use of the lignin polymerization so as to prepare wood composites such as chipboard or fiberboard (see claim 18, at p. 46, line 29 through p. 47, line 2), exactly the use claimed by applicant. In this regard note that wood is a porous material. The holding of anticipation clearly must be maintained.

Applicant further urges that contrary to Schneider, the claimed compositions can be used at an alkaline pH to achieve a high rate of polymerization. This argument does not demonstrate error. The claims do not contain any recitation regarding the pH of the composition. Thus applicant is therefore arguing a limitation clearly not present in the claims. It is noted that claim 18 recites that the enzymes employed must have a pH optimum not less than pH 7.5. However, in view of the fact that applicant's disclosed microorganism sources of such enzymes include the same microorganisms as mentioned in the reference, it appears that claim 18 is properly considered to be anticipated by the reference, absent evidence to the contrary.

Applicant further argues that unlike Schneider the invention enables the production of useful treated articles by

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impregnation of the enzyme, its substrate and other functional components into a porous material. Applicant further argues that the effects of treating porous material are increased by other components selected from functional agents fixed in tree material together with the treating composition of the present invention, and that the claimed composition possesses important properties with respect to the impregnation of the various molecular weight species of enzymes into the porous materials, said impregnation occurring as the treating agent dries.

This argument does not demonstrate error. It is expressly pointed out that applicant's claims are not directed to methods of impregnating porous materials or preparing articles there from. Rather, the claims are directed to compositions containing certain ingredients. Schneider discloses compositions containing the claimed ingredients. Schneider therefore anticipates the claims. Applicant's argument regarding the possible advantageous uses of the claimed composition are simply not directed to the subject matter recited in the claims because the claims are not directed to processes of impregnating porous materials or preparing articles there from. The claims are product claims. The reference discloses the product. The holding of anticipation must therefore be maintained. Lastly, note that evidence of

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unexpected result is not relevant to the inquiry required under § 102.

Claims 1-6, 8, 15 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Haars et al (U.S. Pat. 4,432,291) for the reasons of record set forth at page 5 of the office action of July 18, 2001.

Claims 1-3, 5, 6, 8, 15 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Yde (WO 93/23477) for the reasons of record set forth at page 5 of the office action of July 18, 2001.

In response to the rejections of claims over Haars and Yde, applicant urges that these references disclose the treatment of the surfaces of wood, and not the inner porous areas of wood. Moreover, urges applicant, Haars is directed to a polymerization reaction as an adhesive, which is not the claimed invention. Applicant further urges that the prior art differs from the claims as to the pH of the composition.

Applicant's argument does not demonstrate error. Again, it is expressly pointed out that applicant's claims are not directed to methods of impregnating porous materials or preparing articles there from. Rather, the claims are directed

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to compositions containing certain ingredients. The cited references disclose compositions containing the claimed ingredients. The cited references therefore anticipate the cited claims. Applicant's argument regarding the possible advantageous uses of the claimed composition are simply not directed to the subject matter recited in the claims because the claims are not directed to processes of impregnating porous materials or preparing articles there from. Moreover, note again that the advantages of using a specific pH are irrelevant because the claims do not require the composition to have any specific pH.

Further still, it is again noted that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). On the current record applicant simply has not demonstrated that the compositions disclosed in the prior art do not impregnate the pores in wood when applied

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thereto. Note specifically that the prior art compositions contain ingredients identical to those in the claims.

Therefore, the prior art compositions must necessarily have the same properties as the claimed compositions.

In sum, the claims recite compositions containing certain ingredients. The references disclose compositions containing the claimed ingredients. The holding of anticipation must be maintained.

Claims 1, 2, 6, 8, 15 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Isao et al (JP 07126377 A) for the reasons of record set forth at page 6 of the office action of July 18, 2001.

Claims 1, 2, 6, 15 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Naoichi et al (JP 06287516 A) for the reasons of record set forth at page 6 of the office action of July 18, 2001.

Claims 1, 2, 6, 8, 15 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Miyakoshi et al (JP 5-117591) for the reasons of record set forth at page 7 of the office action of July 18, 2001.

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In response to the rejections using the Kaneko, Sakota and Miyakoshi references, applicant argues that these references relate to treating the surface of wood, but not the inner parts of the porous materials such as wood, and that Kaneko's disclosure of the polymerization of materials in aqueous solution is different from the claimed invention, and that Sakota and Miyakoshi's disclosure of Japanese lacquer is different from the claimed invention.

In response to this argument it is again expressly pointed out that applicant's claims are not directed to methods of impregnating porous materials or preparing articles there from. Rather, the claims are directed to compositions containing certain ingredients. The cited references disclose compositions containing the claimed ingredients. The cited references therefore anticipate the cited claims.

It is again noted that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152

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USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). On the current record applicant simply has not demonstrated that the compositions disclosed in the prior art do not impregnate the pores in wood. Note specifically that the prior art compositions contain ingredients identical to those in the claims. Therefore, the prior art compositions must necessarily have the same properties as the claimed compositions. The holding of anticipation therefore remains required.

Claim Rejections - 35 USC § 103

Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haars et al (U.S. Pat. 4,432,291), Yde (WO 93/23477) and Isao et al (JP 07126377 A), for the reasons of record set forth at pages 7-9 of the office action of July 18, 2001.

All of applicant's argument on this issue has been fully considered but is not persuasive of error. Applicant urges that claim 16, reciting the *in situ* generation of hydrogen peroxide asserted as obvious in the rejection of July 18, 2001, is not obvious by virtue of the fact that claim 16 depends from claim 1 which is demonstrated by applicant's argument as being neither taught nor suggested by the cited prior art. However, as

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discussed at length above, claim 1 is clearly anticipated by the references cited in the rejection made under § 103. Thus, claim 16 is not patentable by virtue of its dependency on claim 1.

No claims are allowed.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Francisco C Prats whose telephone number is 703-308-3665. The examiner

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can normally be reached on Monday through Friday, with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Wityshyn can be reached on 703-308-4743. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3014 for regular communications and 703-305-3014 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.



Francisco C Prats
Primary Examiner
Art Unit 1651

FCP
February 11, 2002